

6. (Currently amended) The method of Claim ± 2 wherein in step e the means for modulation control is selected from manual, electro-pneumatic, digital control or analog control.

7. (Currently amended) The method of Claim ± 2 wherein in step e the means for modulation control is digital control modulation and the level of nitrogen oxides is less than about 20 ppm.

8. (Currently amended) The method of Claim ± 2 wherein in step a the combustion generator uses gas, liquid or solid fuel.

9. (Currently amended) The method of Claim ± 2 wherein in step a the combustion fuel is natural gas and in step e the means for modulation is digital control and the level of nitrogen oxides emitted is about 9 ppm or less.

10. (Currently amended) The method of Claim ± 2 wherein in step e the means for control is selected from an adjustable damper, an on-off damper, a transfer fan, or combinations thereof, and the level of nitrogen oxides emitted is less than about 9 ppm.

11. (Original) The method of Claim 7 wherein in step (a) the fuel is natural gas, in step (c) a fan in each line is present as described in subpart (ii), and the modulation is digital control.

12. (Currently amended) An apparatus configuration for a gas, liquid or solid fuel combustion burner or combinations thereof, which apparatus configuration comprises:

- a. a combustion generator;
- b. an exhaust stack having a stack inlet;
- c. a recirculation inlet and a recirculation outlet;
- d. a separate air inlet to the combustion generator;
- e. a mixing zone and
- f. means within the flue gas recirculation line

for modulating and controlling the ratio of recirculated flue gas and excess air which results in a substantially constant volume flow and higher mass of air and flue gas diluent resulting in a reduced fan size and reduced operational electric power.

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~~An apparatus for a gas, liquid, or solid fuel combustion burner or combinations thereof that controls the ratio of flue gas to air in a recirculated flue gas-air oxidizer stream during operation which is useful to reduce the size of at least one fan in the flue gas recirculation line; air line or combinations thereof and reduce the power consumption of at least one fan in the flue gas line, air line or combinations thereof which concurrently increases the operating range of the apparatus.~~

13. (Currently amended) An apparatus for operating gas, liquid, or solid fuel combustion burners or combinations thereof that utilizes flue gas recirculation, excess air and combinations thereof which apparatus increases the operating range of the burner by operating from a high recirculated flue gas percentage at lower heat input to a lower recirculated flue gas percentage at high heat input under conditions to minimize the change in oxidizer volumetric flow relative to change in the oxidizer mass flow, which apparatus comprises:

- A. a combustion generator located within a combustion chamber,
- B. an exhaust stack for exhausting flue gas from the combustion chamber wherein said exhaust stack has a stack inlet coupled to said combustion generator and a take-off point,
- C. a recirculation inlet and a recirculation outlet wherein for flue gas said recirculation inlet is coupled to said take-off point,
- D. a separate air inlet to provide full excess air to said combustion generator,
- E. a mixing zone for combining recirculated flue gas, air and combinations thereof for transport of recirculated flue gas and air through the burner; and
- F. means within the flue gas recirculation line for modulation control between recirculated flue gas and excess air to result in a substantially constant higher